G S R P

GRADUATE STUDENT RESEARCHERS PROGRAM

FY 2007 NASA Program Announcement

Release Date:	**November 1, 2006**
Proposals Due:	**February 1, 2007**
Selection Announcement:	**June 2007**

http://fellowships.hq.nasa.gov/GSRP/

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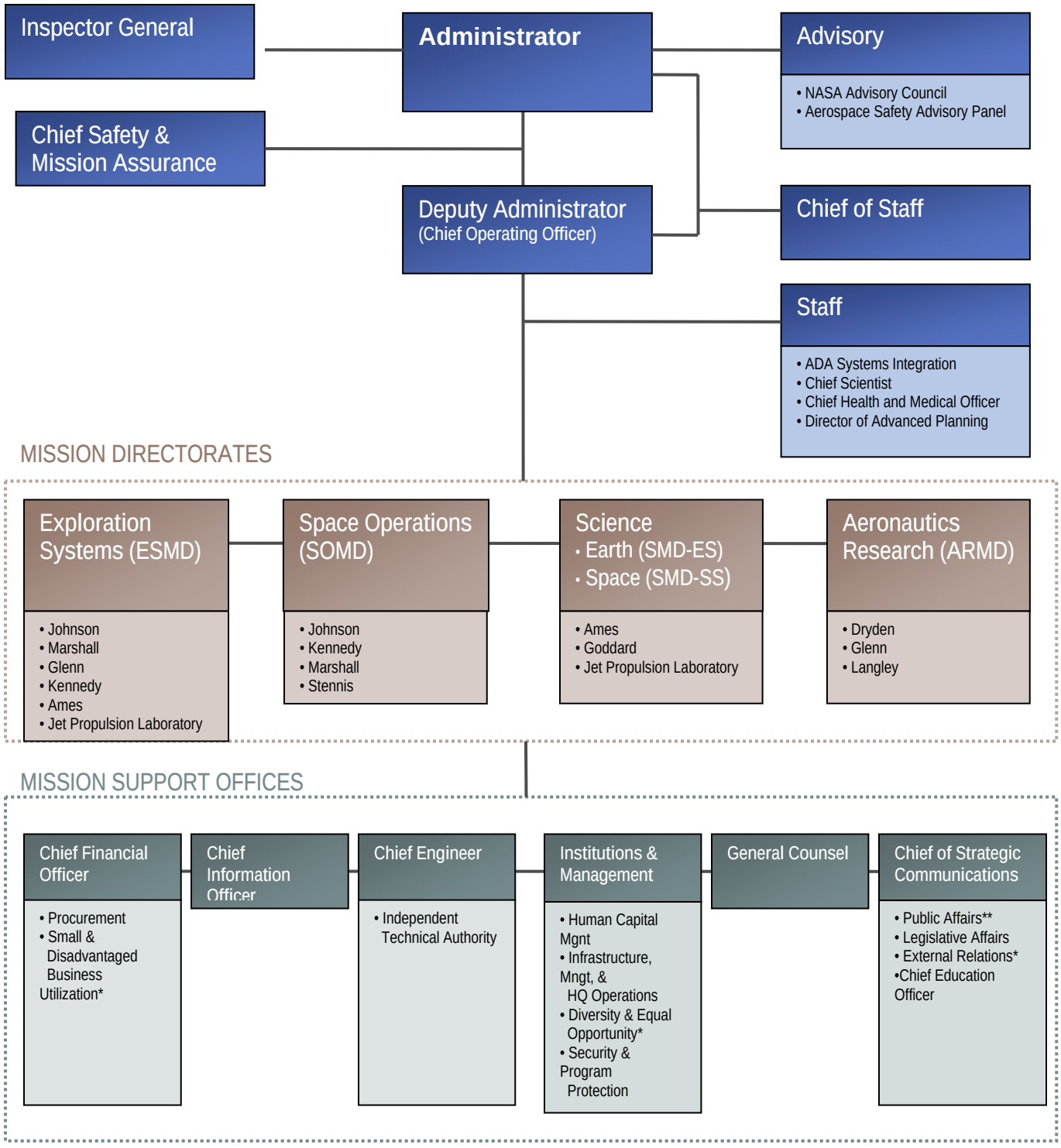
NASA's STRUCTURE



* In accordance with law, the Offices of Diversity and Equal Opportunity and Small and Disadvantaged Business Utilization maintain reporting relationships to the Deputy and the Administrator.

** Including a new emphasis on internal communications.

INTRODUCTION

This solicitation and the corresponding web site http://fellowships.hq.nasa.gov/gsrp/ provide information and updates about the Graduate Student Researchers Program (GSRP) eligibility, and the application process. Students are invited to select up to two (2) research opportunities. One proposal is required for each research opportunity. Research opportunities are found on the GSRP website.

Inquiries

Questions concerning policy matters should be directed to the Graduate Student Researchers Program (GSRP) National Program Manager:

Dr. Katie Blanding
Office of Education
NASA Headquarters
Washington, DC 20546
Phone: (202) 358-0402 / Fax: (202) 358-3523
katie.blanding@nasa.gov

General questions about how to submit the on-line application may be referred to gsrp@nasaprs.com or (202) 479-9376. Technical and scientific questions about specific research opportunities should be directed to the GSRP Program Managers listed for each Center and Mission Directorate on pages 12-13.

Important Program Dates

Solicitation Release Date:	**Wednesday, November 1, 2006**
Application Deadline:	**Thursday, February 1, 2007**
Selection Period:	**April – June 2007**
Award Announcements:	**June 2007**

Overview of the Application Process:

The submission of a well written research proposal is the heart of the application process. As the principal author of the proposal, the student is expected to successfully submit this 5 page document along with all supporting materials. Program Managers and Technical Advisers at the NASA Centers, the Jet Propulsion Laboratory, and Mission Directorates should be contacted to assist with any questions about the relevance of research and to guide you through the application process. Applicants should pay close attention to the application requirements in Part I and Part II, found on pages 23-25, which discusses the different requirements for new and renewal students. These requirements are also discussed in detail in the section titled Application Submission Guidelines.

All application materials must be received on or before **5:00 PM Eastern Standard Time (EST) on Thursday, February 1, 2007**.

IMPORTANT PROGRAM CHANGE FOR 2007-08 GSRP

Research opportunities sponsored by the NASA Headquarters Mission Directorates are available only to renewal students (students entering the 2nd and 3rd year of the GSRP). Renewal students are eligible for fellowships sponsored by the Centers and the Mission Directorates. New (first time) applicants are not eligible for Mission Directorate research opportunities. Mission Directorates include the Science Mission Directorate - SMD (Earth/Space), the Exploration Systems Mission Directorate (ESMD), and the Space Operations Mission Directorate (SMD). New (first time) applicants may only apply for research opportunities at the NASA Centers and the Jet Propulsion Laboratory (JPL).
The new Aeronautics Fellowship opportunity, sponsored by the Aeronautics Mission Directorate for Masters Degree applicants is open to new (first time) and renewal applicants.

GSRP PROGRAM DESCRIPTION

The NASA Graduate Student Researchers Program (GSRP) awards fellowships for graduate study leading to masters or doctoral degrees in the fields of science, mathematics, and engineering related to NASA research and development. This twelve month award includes a required internship at the NASA Center affiliated with the NASA sponsored research.

The goal of NASA's GSRP is to cultivate research ties to the academic community, to help to meet the continuing needs of the Nation's aeronautics and space requirements by increasing the number of highly trained scientists and engineers in aeronautics and space-related disciplines, and to broaden the base of students pursuing advanced degrees in science, mathematics, and engineering. Research opportunities described on the GSRP website, are assessed and updated annually to complement the mission requirements of NASA. Research areas are in disciplines that lead to aeronautics and space careers.

The program supports approximately 300 graduate students annually. NASA's discipline scientists and technologists evaluate applications based upon academic transcripts, research proposals, Faculty Research Adviser's recommendation, and the proposed utilization of NASA Center or university research facilities.

Mentoring and internships at NASA Centers are important aspects of the GSRP Fellowship. It is common practice for the Centers to host students during the summer months to fulfill this purpose; however, the schedule may vary depending on each Center's capacity. Recipients of the GSRP Training Grant must coordinate the schedule for the internship with the Center Technical Adviser and the Center GSRP Program Manager.

Award Description

A student receiving support under the GSRP does not incur any formal obligation to the U.S. Government. The objectives of this program will be served best if the student actively pursues research, teaching, employment in space science and aeronautics industries, or other NASA-related fields after completion of graduate studies.

Amount and Duration: Training Grants are awarded for one in the amount of $30,000. This amount includes a $21,000 student stipend, a student travel allowance of $4,000, up to $1,000 for health insurance, and a $4,000 university allowance, which typically goes to the Research Adviser, who becomes the Principal Investigator for the Training Grant. **Awards** are renewable up to three years based on satisfactory academic advancement, research progress, and available funding. The NASA Program Manager and the Technical Adviser at the NASA Center or Mission Directorate must approve renewals. All applications are due annually, by the deadline posted on the GSRP Website. The deadline for the 2007 applications is on or before 5:00 PM EST on Thursday, February 1, 2007.

Allowable Expenses: The student stipend of $21,000 may cover tuition, room and board, books, software, meal plans, school and laboratory supplies, and other related expenses. The $4,000 student allowance may be used for national and international conferences and data collection. The University Allowance of $4,000 is a discretionary award made to the university via the Research Adviser, who becomes the Principal Investigator for the GSRP Training Grant. NASA recognizes the need for adequate health insurance, and has included an allowance not to exceed $1,000 to assist with this cost. In cases where students already have health insurance, the $1,000 may be added to the stipend or to student travel to NASA Centers and the Jet Propulsion Laboratory. The NASA Program Manager must approve alternative uses of GSRP funding. The GSRP Fellowship supports graduate education, and does not provide University overhead. GSRP funds may not be used for the purchase of any equipment, including computers.

Domestic and International Travel. Domestic travel must be approved by the student's Research Adviser (Principal Investigator). A request for international travel must be submitted to the GSRP Center or Mission Directorate Program Manager and must have the concurrence of the Faculty Research Adviser. Requests should be submitted 15-30 days prior to the proposed travel. For each international trip, the student or faculty research adviser must submit a written request on university letterhead stating the purpose of travel, the GSRP Training Grant Number, estimated cost, travel dates, and the name, telephone number, and address for the Point of Contact in the country to be visited.

Unused Funds and Transfer of Award to Another Student: If a student withdraws within the first half of the award year, the university may request a replacement student with similar achievement and research objectives to complete the remaining months of the current award. Since this is a highly competitive program, replacement students will be selected from NASA's current list of applicants who have passed the review process for the current award cycle. *If there is no student at the requesting university who meets this requirement, the funding for the original GSRP grant will be returned to NASA.* Requests for replacements must be made in writing by the student's research adviser, and coordinated with the Center or Mission Directorate Program Manager.

Replacing a Research Adviser: The NASA policy governing the transfer of awards is guided by the Agency's Grants and Cooperative Agreement Handbook. The GSRP is awarded to the student's university, via a Research Adviser (Principal Investigator) at that university, identified by the student. Should an adviser leave the university to which the award is made, the award remains with the university; therefore, it is incumbent upon the Faculty Adviser and the student to arrange a replacement Adviser by first contacting the GSRP Program Manager. The GSRP is not a portable award.

Students Transferring to Another University: For various reasons, students sometimes transfer between universities. The NASA policy governing awards is guided by the Agency's Grants and Cooperative Agreement Handbook. The GSRP is awarded to the applicant's university, via the Research Adviser (Principal Investigator) at that university. The student's name is listed on the GSRP Training Grant, and the university accepts the responsibility of managing the award for the student named on the grant. If a student chooses to transfer to another university, the grant remains with the original university, and the Adviser may request a replacement student from the NASA database of students who have passed the review for the current award cycle. If a student wishes to receive a GSRP Fellowship for the new university, the student must be formally admitted to the new university, identify an adviser, and go through the entire GSRP application process for the new university. The (new) application must go through the next scheduled review cycle and be approved by the sponsoring Center or Mission Directorate. The GSRP is not a portable award.

Tax Questions: All questions concerning taxes should be directed to the Internal Revenue Service. Refer to IRS Publication 520, "Scholarships and Fellowships," and Publication 508, "Tax Benefits for Work-Related Education," for further information. Both publications can be accessed at the following web site address http://www.irs.gov/formspubs/index.html .

Eligibility Requirements

- Applicants must be currently enrolled or accepted as a full-time graduate student in an accredited U.S. college or university.
- Applicants must be U.S. citizens.
- Students may apply at any time during their graduate program, or prior to receiving their baccalaureate degree, provided they have been accepted to an accredited graduate program at a U.S. college or university.
- All applicants must have a Faculty Adviser (who will be the Principal Investigator of the GSRP Training Grant) from the institution where they plan to receive their graduate degree.
- Graduating seniors accepted by a graduate school must contact their graduate school department and request an adviser to support the NASA research funded under the GSRP.
- Recipients must agree to participate in a NASA Center-based internship. The internship must be coordinated with the NASA Center Technical Adviser and the GSRP Program Manager. This is a requirement for all new and renewal students.

Identification of a University Faculty Adviser is important. Although, awards are made to the University, the Research Adviser provides the research support and guidance for the successful completion of the degree program.

Identification of a Technical Adviser at the designated NASA Center is equally important, since the research topic and the internship must be coordinated with the NASA Technical Adviser for relevance to the Agency's research and development requirements.

Individuals accepting this award may not concurrently receive other Federal fellowships or traineeships. The exception to this policy is Section 178(a) of Title 38, U.S. Code, which allows a student to receive concurrent educational benefits from the Department of Veterans Affairs. Underrepresented groups in science, technology, engineering and mathematics fields (STEM), are strongly encouraged to apply to the GSRP.

2 YEAR AERONAUTICS FELLOWSHIP OPPORTUNITY FOR STUDENTS PURSUING MASTERS DEGREES

In reference to public Law 109-155-DEC. 30, 2005, 119 STAT. 2927, 42 USC 16741, Section 431 NASA Aeronautics Scholarships, NASA will develop a scholarship program to promote aeronautics education at the graduate level in the United States. The NASA Aeronautics Scholarship program will be offered starting in FY2007 to support the 2007/2008 academic year.

This Scholarship, hereinafter referred to as the Aeronautics Fellowship will be for full-time graduate students who are United States citizens and are enrolled in, or have been accepted by and have indicated their intention to enroll in, accredited Masters Degree programs in aeronautical engineering or equivalent programs at institutions of higher education.

This graduate level fellowship program will be a partnership between the NASA Office of Education and the NASA Aeronautics Research Mission Directorate (ARMD), and will be based on an existing NASA fellowship program—the Graduate Student Researchers Program (GSRP).

All individuals who apply for a GSRP fellowship in an aeronautical engineering or equivalent program will qualify for the Aeronautics Fellowship program. Three (3) individuals each year from this qualified group will be selected to receive the basic GSRP stipend. In addition, each of the three individuals will receive the option for a summer or 10-week internship at a NASA Center to conduct aeronautics research. Scholarship recipients will coordinate their research under the guidance of a NASA mentor or advisor who covers NASA aeronautics research programs. The internship will include a stipend of

$10,000 above the basic GSRP yearly stipend of $30,000 for FY07, as defined in the background material for GSRP. Each aeronautics fellowship will be provided for a maximum of two years, and will include a maximum of two years of GSRP fellowship stipend plus two summer internships with their $10,000 supplemental stipends. These stipends are to cover educational expenses such as room, board, tuition, and fees.

At the conclusion of the Aeronautics Fellowship, the individual has the option to continue in the GSRP for the optional third and final year. Individuals selected for this third year after completing the Aeronautics Fellowship program must meet all GSRP program requirements for this third year.

The Office of Education will administer the program using the existing GSRP structure. The ARMD will make final selection of fellowship recipients from the GSRP applicants who apply for consideration under aeronautics research disciplines. Once an individual is selected, he or she will be assigned a NASA mentor or advisor in their study discipline. The location of their mentor and the location of the NASA research in their study area will determine the location of their summer or 10-week internship.

ARMD and its programs and projects will provide applicants with options from which to select research areas appropriate to ARMD research goals. A point of contact for each area will be listed to provide general assistance and to help locate a suitable NASA mentor or advisor. These research opportunities are listed on the GSRP website under topics for the Aeronautics Research Mission Directorate (ARMD).

At the conclusion of the Aeronautics fellowship program all individuals are required to publish a paper or journal article on their research within six (6) months of the conclusion of their program. Understanding that there are often long lead-times before actual publication of research articles, it will be acceptable to the program that, within the six-month time period, the fellowship recipient's article will have been accepted for publication. Upon publication, the article must be forwarded to NASA in order to officially conclude the program.

Students applying for the Aeronautics Fellowship must meet all requirements for the GSRP, including meeting the deadline, completing the application, submitting a proposal specifically targeting one of the Aeronautics research topics in the 2007 GSRP solicitation, submission of all on-line and mail-in materials. Upon completion of the 2 year Aeronautics Fellowship Program, students will be eligible for an additional (1) year of support under the GSRP Fellowship Program.

In summary, the Aeronautics Fellowship will be offered to students pursuing the Masters degree. It will provide 2 years of support for students consisting of $30K, plus an additional $10K to cover a specialized internship in Aeronautics. Once the students complete the 2 year Masters Program, NASA will offer 1 additional year of support under the GSRP at the rate of $30K.

REPORTING REQUIREMENTS

All reports requested in accordance with the GSRP program requirements are vital to program management and evaluation. It is the responsibility of the Principal Investigator, the student and the institution receiving a NASA GSRP award to ensure prompt submission of all required reports. A listing of Interim and Final reports is included on the official Training Grant sent to the student upon issuance of the award. A summary of these reports is provided below:

Profile and Performance Reports

REQUIRED REPORT	ACTION BY
1. **Student profile** within the first 120 days of accepting the award. See https://neeis.gsfc.nasa.gov/edcats/urls/nw/gsrp_profile.html for the form.	***Student***
2. **On-line questionnaire** at http://fellowships.hq.nasa.gov/gsrp/questionnaire/index.cfm	***Student***
3. **Student Feedback Form** at https://neeis.gsfc.nasa.gov/edcats/urls/nw/gsrp_feedback.html	***Student***
4. To perform our performance and accountability measures**,** we need follow-up information on GSRP alumni. Periodically, (about every three to five years) please remember to update your profile to indicate employment data, patents, publications, etc. This information may be updated in your profile at https://neeis.gsfc.nasa.gov/edcats/urls/nw/gsrp_followup.html	***Student***

Interim Reports

1. **Quarterly Federal Cash Transactions Report (SF272)** Required for all Grants and Cooperative Agreements). Due within 15 working days following the end of each quarter of the Federal fiscal year. (Ref. 1260.26). Submit to Financial Management Officer (FMO). Address will be on the Training Grant.	***University Sponsored Research Office***
2. **Progress Reports** (The GSRP requires a progress report annually as a part of renewal of the award. Submit with renewal proposal.	***Student & PI***
3. **Notification of Decision to Forego Patent Protection**. (Required for all Grants and Cooperative Agreements). Submit as applicable, not less than 30 days before the expiration of the response period required by the relevant patent office. (Ref 1260.28)	***Student & PI***
4. **Election of Title to a Subject Invention** (Required for all Grants and Cooperative Agreements). Submit within 2 years of disclosure of a subject invention being elected, except in any case where publication, on sale or public use of the subject invention being elected has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, at least 60 days prior to the end of the statutory period. (Ref. 1260.28 and 1260.57). Submit to Project Officer/Program Manager and Grants Officer.	***Student & PI***

FINAL REPORTS

1. **Properly Certified Final Federal Cash Transaction Report, SF272** (Required for all Grants and Cooperative Agreements). Submit within 90 days after the expiration date of the grant/cooperative agreement. (Ref. 1260.26). Submit to Project Officer and Grants Officer.	***University Sponsored Research Office***
2. **Summary of Research** (Required for GSRP Training Grants). Submit within 90 days after the expiration date of the grant/cooperative agreement. (Ref. 1260.22)	***Student***

APPLICATION SUBMISSION GUIDELINES

All new and renewal applicants must follow the on-line application process. This process requires applicants to complete the on-line GSRP application form and to upload other required documents. Some documents cannot be submitted electronically and must be mailed. These include official transcripts, Faculty Research Adviser's letter of recommendation, and the University Signature Form. Applicants must submit these accompanying materials for each research topic on or before 5:00 PM EST February 1, 2007.

The complete submission process is outlined in the following steps.

Step 1: Electronic Submission of GSRP Application

To access, complete, and submit the on-line application, go to http://fellowships.hq.nasa.gov/gsrp/. Select the "APPLY ONLINE" option and follow the instructions. **New applicants** must upload the following documents: the research proposal, a biographical sketch of the student and a biographical sketch of the Faculty Research Adviser. **Renewal applicants** only need to upload their progress report. The final step in the electronic portion of the application process is to print out the University Signature Form. Applicants must collect original signatures on this form from the university's sponsored research office, and submit it by mail (see step 2).

Step 2: Mail In Required Documentation

The following documents must be received **on or before 5:00 PM EST, February 1, 2007**. We strongly recommend that you request these materials early, to ensure that a complete application is on file for you by the deadline. Materials received after the deadline will be considered as late submissions.

1. GSRP Signature Form: This form must be completed in full and bear the original signatures of the applicant, Faculty Adviser, and the university's authorizing official.

2. Faculty Adviser Letter of Recommendation: A letter of recommendation must be provided from your graduate university research adviser who will serve as the Principal Investigator for your proposed research. This letter must be signed by the Research Adviser. It may be submitted with other mail-in documents, or under separate cover.

3. Official Transcript: An official transcript that lists all university coursework (undergraduate and graduate) is required from **new applicants**. **Renewal applicants** must provide an official transcript that lists all courses taken since the previous GSRP award. **Students should request their transcripts and recommendations well in advance of the deadline to ensure arrival** (on or before 5:00 PM EST on February 1, 2007).

Checklist: New Applicant *(Includes Recent College Graduates and Graduating Seniors)*

1. Electronic Submission of Application (including contact information, abstract, budget figures, and description of anticipated use of Center or university research facilities).
2. Electronic Upload of five-page Proposal/Project Description.
3. Electronic Upload of Biographical Sketches of Faculty Adviser and Student.
4. Official University Transcripts from all undergraduate institutions attended.
5. Letter of Recommendation from the Faculty Adviser.
6. University Signature Form.

Checklist: Renewal Applicant

1. Electronic Submission of Application (including contact information, abstract, budget figures, and description of changes from previous year of anticipated use of Center or university research facilities).
2. Electronic Upload of Progress Report.
3. Official University Transcript since last submission from the Student's Institution.
4. Letter of Recommendation from the Faculty Adviser.
5. University Signature Form.

To ensure the preparation of a competitive proposal, students must collaborate with a faculty advisor **and** with a potential NASA Technical Adviser to identify a project from the list of research topics on the current GSRP website. NASA Center and Mission Directorate researchers define topics on the basis of immediate and long term mission requirements. In some instances, the NASA Technical Advisers may update research topics within the course of a year, to reflect changes in NASA's research focus. These updates will be made on the GSRP website**. It is extremely important** that applicants for the GSRP Fellowship coordinate their proposed research topics with the Center or Mission Directorate Technical Advisers, to ensure the current relevancy of research interests to mission research and development requirements. NASA Technical Advisers are listed at the end of each research opportunity. Students are advised to solicit guidance, review, and commentary on the proposal from their Faculty Adviser and the NASA Technical Adviser prior to submission. The "student" must write the GSRP proposal. For a complete explanation of required materials for both new and renewal applicants, see the section below on "Proposal Preparation."

Proposal Preparation

Applicants may respond to no more than two GSRP research opportunities. Each proposal must address a single research topic and must be submitted to the appropriate Center and/or Mission Directorate. Proposals should be coordinated with a NASA Technical Adviser to determine appropriateness for NASA research and development. Applicants should clearly indicate the Mission Directorates and/or Centers by checking the appropriate selection on the application. Applicants interested in two Mission Directorates and/or Centers must submit two **different** proposals to each location to which they are applying. Program Managers at NASA Centers and Mission Directorates will have electronic access and capability for on-line review of proposals.

Formatting Guidelines

- A 5-page proposal in response to the Research Opportunities listed on the GSRP website.
- Submitted (uploaded) reports (Anticipated Use of Research Facilities Report, Proposal/Project Description or Research Progress Reports, and Biographical Sketches) should not exceed the page limits (including associated tables, forms, charts, graphics, and appendices or references).
- Documents uploaded should be formatted with one-inch margins (top, bottom, left and right), and 12-point font. Single spacing is recommended.

Evaluation Criteria

NASA Mission Directorates, Centers, and the Jet Propulsion Laboratory will review applications and make selections for participation in this program. Selections are based on the successful submission of a complete application package. Refer to the checklist under Step 1 of this announcement.

1. A five page research proposal which follow the sequence below, and contains the following technical elements:
    - Statement of the Problem
    - Hypothesis
    - Approach
    - Predicted Outcomes
    - Proposed Timeline
    - Conclusion
    - References
    - Adviser's Endorsement
    -
2. Transcripts. New applicants must provide transcripts showing undergraduate and graduate coursework. Renewals must provide a transcript showing all courses taken since the previous GSRP award
3. The proposed utilization of Center or University research facilities
4. The recommendation of the Faculty Adviser.

INSTRUCTIONS FOR SUBMITTING MAIL-IN DOCUMENTS

- If applying for research opportunities sponsored by the Mission Directorates or the Jet Propulsion Laboratory (JPL), submit all mail-in documents to:

    NASA Research and Education Support Services (NRESS)
    2007 Graduate Student Researchers Program (GSRP)
    500 E Street, SW, Suite 200
    Washington, DC 20024 – 2760

Note: Confer with the GSRP Program Manager at the appropriate NASA Center or NASA Headquarters Program Manager for your research area, should you have questions, or need guidance on any aspect of the submission process. *Mission Directorate and JPL Program Managers are listed below in Chart **'A'** below.*

- If applying to one of the 9 NASA Centers, submit all mail-in documents to the appropriate Program Manager for your research area. The NASA Center Program Managers are listed in chart **'B'** below.

- If applying to one NASA Center and one Mission Directorate, submit a package containing all mail-in materials to the appropriate NASA Center Program Manager, and one package containing all mail-in materials to:

    NASA Research and Education Support Services (NRESS)
    2007 Graduate Student Researchers Program (GSRP)
    500 E Street, SW, Suite 200
    Washington, DC 20024-2760

CHART A

CONTACT INFORMATION FOR NASA MISSION DIRECTORATES AND NASA JPL		
NASA Mission Directorates	**Mission Program Manager**	**Mail and Contact Information**
Aeronautic Research Mission Directorate (ARMD)	Mr. Anthony Springer	NASA Headquarters Washington, DC 20546-0001 P: 202-358-0848 / F: 202-358-4060 tony.springer@nasa.gov
Exploration System Mission Directorate (ESMD)	Mr. Jerry G. Hartman	NASA Headquarters Washington, DC 20546-0001 P: 202-358-1451 / F: 202-358-4168 Jerry.G.Hartman@nasa.gov
Science Mission Directorate (SMD-ES) (SMD-SS)	Ms. Anne N. Crouch – Earth Science (SMD-ES)	NASA Headquarters Washington, DC 20546-0001 P: 202-358-0855 / F: (202) 358-2770 anne.n.crouch@nasa.gov
	Ms. Dolores Holland – Space Science (SMD-SS)	NASA Headquarters Washington, DC 20546-0001 P: (202) 358-0734 / F: (202) 358-3094 Dolores.holland@nasa.gov
Space Operations Mission Directorate (SOMD)	Ms. Alotta E. Taylor	NASA Headquarters Washington, DC 20546-0001 P: 202-358-2534 Alotta.E.Taylor@nasa.gov
NASA Jet Propulsion Laboratory	Ms. Linda Rodgers	Mail Stop 180-109 4800 Oak Grove Drive Pasadena, CA 91109-8099 P: (818) 354-3274 / F: (818) 393-4977 Linda.L.Rodgers@jpl.nasa.gov

CHART B

CONTACT INFORMATION FOR NASA CENTERS		
NASA Centers	**Center Program Manager**	**Mail and Contact Information**
NASA Ames Research Center	Ms. Brenda Collins	Mail Stop 226-8 Moffett Field, CA 94035-1000 P: 650-604-3540 / F: 650-604-0978 Brenda.J.Collins@nasa.gov
NASA Dryden Flight Research Center	Dr. Miriam Rodon-Naveira	Mail Stop 1023 4800 Lilly Drive Edwards, CA 93523 P: 661-276-3647 / F: 661-276-2134 Miriam.M.Rodon@nasa.gov
NASA Glenn Research Center	Dr. M. David Kankam	Mail Stop 49-5 Cleveland, OH 44135 P: 216-433-6143 / F: 216-433-3687 Mark.D.Kankam@nasa.gov
NASA Goddard Space Flight Center	Ms. Mablelene Burrell	Mail Code 603.1 Greenbelt, MD 20771 P: 301-286-9690 / F: 301-286-1610 Mablelene.S.Burrell@nasa.gov
NASA Johnson Space Center	Ms. Sara Malloy	Code AE2 2101 NASA Road 1 Houston, TX 77058 P: 281-483-7847 sara.w.malloy@nasa.gov
NASA Kennedy Space Center	Ms. Cheryl Johnson	Mail Stop: XA-D1 Kennedy Space Center, FL 32899 P: 321-867-4602 / F: 321-867-2097 Cheryl.M.Johnson@nasa.gov
NASA Langley Research Center	Lloyd B. Evans	Mail Stop 400 Hampton, VA 23681-2199 P: 757-864-5209 / F: 757-864-6521 Lloyd.b.evans@nasa.gov
NASA Marshall Space Flight Center	Dr. Alan Chow	HS30 / NSSTC 320 Sparkman Drive Huntsville, AL 35805-1912 P: 256-544-7107 / F: 256-961-7523 Alan.S.Chow@nasa.gov
NASA Stennis Space Center	Mrs. Katie Wallace	Building 1100, Room 322J Stennis Space Center, MS 39529 P: 228-688-7744 / F: 228-688-1094 Katie.V.Wallace@nasa.gov

The GSRP application must be submitted electronically at http://fellowships.hq.nasa.gov/gsrp/. The Adviser's Recommendation, official transcripts, and the University Signature Form must be submitted by mail.

New awards are scheduled to begin the first of *July, August, or September 2007*. **Incomplete or late proposals will be rejected**. The starting date for renewal awards will be one year from the start date of the original fellowship.

HOW NASA'S GSRP OPPORTUNITIES ARE SPONSORED

Research opportunities are sponsored through two methods. The majority of these Training Grants will be sponsored by the 9 NASA Centers and the Jet Propulsion Laboratory. Awards are also sponsored by the four Mission Directorates at NASA Headquarters. The Centers consist of the Johnson Space Center (JSC) located in Houston, Texas; the Marshall Space Flight Center (MSFC), located in Huntsville, Alabama; the Ames Research Center (ARC), located at Moffett Field, California; Dryden Flight Research Center (DFRC), located in Edwards, California; the Glenn Research Center (GRC), located in Cleveland, Ohio; the Goddard Space Flight Center (GFRC), located in Greenbelt, Maryland; Stennis Space Center (SSC), located in Stennis, Mississippi; Kennedy Space Center (KSC) located in Orlando, Florida, and Langley Research Center (LARC), located in Hampton, Virginia. The Jet Propulsion Laboratory (JPL) is located in Pasadena, California.

The participating Mission Directorates are the Exploration Systems Mission Directorate (ESMD), the Science Mission Directorate, which includes Earth Sciences (SMD-ES) and Space Science (SMD-SS), the Aeronautics Research Mission Directorate (ARMD), and the Space Operations Mission Directorate (SOMD).

Applicants may choose at least one, but no more than two research opportunities from any of these sources. Instructions for submitting your application are found on pages 9-11 of this announcement.

NASA MISSION DIRECTORATES, CENTERS AND FACILITIES

Over the past year, NASA has successfully transitioned to a new organizational structure, which aligns with the Agency's "Vision for Space Exploration" Recognizing the need for an integrated approach to science requirements, management, and implementation of systems development and exploration missions, NASA created a leaner and more focused Agency. The full text version of the Vision for Space Exploration may be found at http://www.nasa.gov/missions/solarsystem/bush_vision.html).

This transformation restructured NASA's Strategic Enterprises into Mission Directorates. It also restructured Headquarters support functions and clarified organizational roles and responsibilities. The Mission Directorate organizational structure includes:

- Aeronautics Research (ARMD): Researches and develops aeronautical technologies for safe, reliable and efficient aviation systems.

- Science (SMD): The Office of Earth Science and Office of Space Science have been integrated to form the Science Mission Directorate. The Science Mission Directorate carries out the scientific exploration of the Earth, Moon, Mars and beyond; charts the best route of discovery; and reaps the benefits of Earth and space exploration for society. A combined organization is best able to establish an understanding of the Earth, other planets and their evolution, bring the lessons of our study of Earth to the exploration of the Solar System, and ensure the discoveries made here will enhance our work there.

- Exploration Systems (ESMD): Develops capabilities and supporting research and technology that enable sustained and affordable human and robotic exploration; includes the biological and physical research necessary to ensure the health and safety of crew during long duration space flight.

- Space Operations (SOMD): Directs space flight operations, space launches and space communications, as well as the operation of integrated systems in low-Earth orbit and beyond

To support these four Mission Directorates, NASA operates nine Centers nationwide, the contractor-operated Jet Propulsion Laboratory, and the Wallops Flight Facility. Each Mission Directorate covers a major area of the Agency's research and development efforts. The overarching functions of these Mission Directorates and specific research opportunities that exist within these Mission Directorates are described in this solicitation. GSRP research opportunities are provided by the Mission Directorates, NASA Centers, and the Jet Propulsion Laboratory. Please note that the focus of some research opportunities may change during the year in accordance with the changing needs of the Agency; therefore, we strongly recommend that you continue to visit the GSRP website for important updates. A synopsis is provided in the following paragraphs for each Mission Directorate's research interest.

Aeronautics Research Mission Directorate (ARMD)

The mission of the Aeronautics Research Mission Directorate (ARMD) is to pioneer the identification, development, verification, transfer, application, and commercialization of high-payoff aeronautics and space transportation technologies. It is responsible for guiding and managing NASA's aeronautics research, and defining the investments that NASA makes on behalf of the Nation. These investments, by definition, are for long-term high-risk undertakings that are beyond the scope, capacities, or risk limits of others to perform.

The ARMD focuses on research, technology, and operation of advanced aeronautics applications and technologies to advance the Exploration agenda. The existing programs continue to be a major Agency pursuit and will involve activities that will conduct a comprehensive array of critical aviation and advanced space transportation research activities. For example, the ARMD is committed to developing tools and technologies that can help to transform how the air transportation system operates, how new aircraft are designed and manufactured, and how our Nation's air transportation system can reach unparalleled levels of safety and security.

Specific research topics include:

- Improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical vehicles;
- Long-range studies of the problems involved in the utilization of aeronautical activities for peaceful purposes; and
- Preservation of the role of the United States as a leader in aeronautical technology.

Aeronautics Research Mission Directorate R&D activities promote national security and economic growth by advancing a safe, efficient national aviation system and an affordable, reliable space transportation capability. The plans and goals of the Mission Directorate directly support national policy in both aeronautics and space, as documented in the President's "Goals for a National Partnership in Aeronautics Research and Technology," and the "National Space Transportation Policy." It is uniquely positioned to promote innovation in both fields of aeronautics and space transportation.

Please visit http://www.aerospace.nasa.gov for more information on the Aeronautics Research Mission Directorate.

Science Mission Directorate (SMD)

The NASA Science Mission Directorate (SMD) supports basic and applied research in Earth and space science. The SMD research program includes the development of major space flight missions; analysis of data from prior missions; conduct of major field campaigns; and the Supporting Research and Technology (SR&T) program which includes development of instruments for suborbital flights and potential missions, detector development, complementary laboratory research, and theoretical studies. The SMD also supports the development of decision-making tools for science-based policy and management decisions.

The fundamental questions and goals for NASA's Earth and space science research activities are given in a series of Strategic Plans and Science Roadmaps; these documents can be accessed at http://science.hq.nasa.gov/strategy/ and http://science.hq.nasa.gov/strategy/roadmaps/.

Interested proposers are advised that historically the response to this GSRP program has been extremely high, with a selection ratio of about one out of five, and that a key criterion for proposal evaluation and selection is the relevance of the proposed investigation to the NASA mission as described in the Space and Earth Science Strategic Plans. Therefore, while academic records are important, students should consider applying to this program only if they can present valid lines of reasoning that their intended research is clearly relevant to NASA SMD science research programs and/or missions and/or strategic objectives. Programmatic factors may also affect selection (for example, see specific priorities in the Divisions listed below). The program should present a well-defined problem and justification of its scientific significance, as well as a detailed approach for its solution.

Research that exploits analysis of data collected by spacecraft-borne instruments, relevant ground-based data and laboratory experiments, and theoretical modeling is solicited. Emphasis is placed on the development and implementation of a multifaceted program of space-based and suborbital (airborne, sounding rocket, and balloons) missions. Investigations that support instrumentation development relevant to future missions in the above areas, the analysis of data from ongoing and past missions, and laboratory and theoretical investigations that support the interpretation of relevant space-based observations are invited. Individuals are strongly encouraged to make their proposals directly relevant to the mission of the SMD science research themes and to clearly indicate which theme area they are proposing to. In particular, recent successful proposals have concentrated on data analysis, developing hardware or modeling tools, and/or carrying out essential scientific objectives or observations based on specific NASA-supported missions.

SMD participates in the GSRP and, in addition, offers the Earth System Science (ESS) Fellowship Program. For information on how to apply to the ESSFP see http://nspires.nasaprs.com/, select "Solicitations," select "Open Solicitations"). The terms and conditions for these two programs remain essentially the same except: 1) Eligible foreign students pursuing graduate degrees relevant to NASA Earth Science at accredited U.S. universities must apply through the ESS Fellowship Program; foreign students are not eligible to apply to GSRP; and 2) the deadline for the 2nd- or 3rd-year renewal applications to the ESS Fellowship Program is March 15. (Applicants cannot concurrently receive more than one Federal fellowship or traineeship.)

Solar System Exploration Division – Addresses scientific activities that pertain to the solar system, including planets, moons, rings, asteroids, and comets. Questions of interest are: What is the origin of the solar system and how did it evolve to its current diverse state? What characteristics of the solar system make planetary bodies habitable? Has life ever existed on other planetary bodies in the solar system? What is the ultimate fate of the solar system? What threat is posed by the potential for collisions with Earth-approaching objects? Acceptable research topics in the Solar System Exploration theme include studies of the planets, rings, moons, comets, asteroids, meteorites, and cosmic dust.

Areas of research interest include planetary geology, geophysics, geochemistry, atmospheres, astronomy, and astrobiology. Research using data collected by missions to explore our solar system is encouraged. The data are available through the Planetary Data System at http://pds.jpl.nasa.gov/. Projects that involve theoretical modeling or laboratory experiments to aid in interpreting planetary data and understanding planetary processes are also appropriate.

The Earth-Sun System Division – Includes Earth System Science and Applications and Sun-Solar System Connections.

The key research topics in Earth system science fall largely into three categories: forcings, responses, and processes that link the two and provide feedback mechanisms. The goal for Earth System Science research is to understand how the Earth is changing, to better predict the change(s), and to understand the consequences of change for life on Earth; the objective for Earth Science Applications is to expand and accelerate the realization of economic benefits from NASA Earth science, information, and technology through innovative or improved decision support systems. Applications are considered in six focus areas:

- **Climate Variability and Change**

Develop integrated models of the oceans, atmosphere, cryosphere and land surface, and apply to retrospective and future studies of climate variability and change. Mission activities that support this focus area include Terra, Aqua, ACRIMSAT, Jason, SORCE, GRACE, ICEsat, Cloudsat, Joint Center for Satellite Data Assimilation (JCSDA), etc.

- **Atmospheric Composition**

Understand the trace constituent and particulate composition of the Earth's atmosphere and predict its future evolution. Mission activities that support this focus area include Aura, Calipso, etc.

- **Carbon Cycle and Ecosystems**

Understand and predict changes in the Earth's terrestrial and marine ecosystems and biogeochemical cycles. Mission activities that support this focus area include Landsat, Terra, Aqua, EO-1 (Hyperion & ALI), etc.

- **Water and Energy Cycle**

Characterize and predict trends and changes in key reservoirs and fluxes associated with the global water and energy cycle, including changes in the frequency and intensity of hydro-meteorological events and their regional manifestations. Mission activities that support this focus area include TRMM, Aqua, GRACE, ICEsat, Calipso, GPM, Cloudsat, etc.

- **Weather**

Develop the technology, observational and modeling capacity needed to improve daily and extreme weather forecasting (e.g., hurricanes, tornadoes). Mission activities that support this focus area include TRMM, QuikSCAT, Aqua, GPM, Short-term Prediction Research and Transition Center (SpoRT), JCSDA, etc.

- **Earth Surface and Interior**

Utilize state-of-the-art measurements and advanced modeling techniques to understand and predict changes on the Earth's surface and in its interior. Mission activities that support this focus area include SRTM, GRACE, ICEsat, and the geodetic laser, GPS, and interferometer networks.

Although the development of a Earth science application project is generally beyond the scope of a graduate thesis, the applicants are encouraged to identify the potential if the research results can be extended to decision support in agricultural efficiency, air quality, aviation, carbon management,

disaster management, ecological forecasting, energy management, homeland security, invasive species, public health, and water management.

The Sun-Solar System Connection (S3C) - Addresses the understanding of the Sun, heliosphere, and planetary space environments as a single connected system. The three science objectives of the S3C program are: To understand the fundamental physical processes of the space environment - from the Sun to the Earth, to other planets, and beyond to the interstellar medium; to understand how human society, technological systems, and the habitability of planets are affected by solar variability and its interaction with planetary magnetic fields; and to maximize the safety of productivity of human and robotic explorers by developing the capability to predict the extreme and dynamics conditions in space. Research in the Sun-Solar System Connections (S3C) focuses on investigations of the physics of the Sun, both as a nearby star and as a source of variable outputs of solar wind, energetic particles, and electromagnetic radiation that influence the Earth and its space environment; on the heliosphere and its interaction with the local interstellar medium; and on all planetary space environments within the heliosphere. Studies of the planetary space environments include investigations of the coupling between the Sun and the magnetosphere, ionosphere, thermosphere, and mesosphere of the Earth and other planets. The program also involves investigations of the origin, evolution, and physics of astrophysical plasmas, electromagnetic fields, and energetic particles in the heliosphere. The theme also supports theory and modeling programs related to the above topics. Use of data is encouraged from S3C missions, which include SOHO, TRACE, RHESSI, Voyager, Ulysses, ACE, IMAGE, Cluster, FAST, Polar, TIMED, and others. The proposer should make clear that arrangements have been made to obtain the data. Applicants with proposals relevant to the objectives of the Sun-Solar System Connection should check “SMD/Space Science” on the GSRP cover page.

Universe Division – Topics include cosmology, large scale structure of the universe, evolution of stars and galaxies, including the Milky Way, and objects with extreme physical conditions. Questions of interest are: How did the universe come into being? How does it work? What is its ultimate fate? Research is focused into campaigns targeted towards the search for dark energy and its effects on the expansion of the universe; the identification of dark matter and its influence on the shape of galaxies and clusters of galaxies; finding out where and when chemical elements were made; understanding of the cycles in which matter, energy, and magnetic field are exchanged between stars and interstellar gas; discovery of how gas flows in disks and formation of cosmic jets; identification of sources of gamma-ray bursts and high-energy cosmic rays; measurement of strong gravity near black holes and its affects on the early Universe.

Equally important areas of research investigate the origins of galaxies, stars, protoplanetary disks, extra-solar planetary systems, Earth-like planets, and the origin of life. Questions of interest are: How were galaxies born? How do stars and solar systems form? Are there other Earth-like planets? Research is focused on determining the fate of the baryonic matter; measuring the luminosities, forms, and environment of galaxies back to the epoch of their formation; trace the chemical evolution of the universe from the birth of the first stars; follow the journey of the heavy chemical elements after their birth to the formation of dust, new generations of stars, and planetary systems; search for evidence of planet formation in disks around young stars; determine how planetary-system forming disks evolve; search for other planetary systems around a variety of stars and determine their characteristics; reconstruct the environmental history of Earth in the first billion years when life arose; characterize the traits of the universal common ancestor through phylogenetic analyses; characterize the range of atmospheric compositions that might be produced by microbal ecosystems; develop theoretical models for the compositional evolution of early Earth's atmosphere through to the accumulation of significant O2; and to predict possible global biosignatures of planets around other stars.

Because of the oversubscription of excellent proposals in the program, the Universe Division has set specific programmatic priorities. The priorities to be applied, starting with the highest, are: 1. Work in support of technology for future missions not supported by technology funding;

2. Work in support of suborbital flights or possible future small missions addressing the objectives of the two themes; 3. Analysis and interpretation of data for flight missions not otherwise supported with adequate resources for users outside the experiment teams; 4. Correlative observations for current flight missions; 5. Theoretical investigations in support of future or ongoing flight missions; 6. Other analyses or theoretical studies related to the general objectives of the division; and 7. Other work in support of the division goals of the Earth and Space Science Strategic Plan.

Information Systems Research and Technology – Exploit emerging advances in information science and technology to increase productivity of the Science Mission Directorate research endeavors, and extend the state-of-the-practice in those endeavors. Notional areas of interest for proposals include, but are not limited to: advanced knowledge discovery, data synthesis, and data presentation methodologies; intelligent knowledge-building systems to assist scientific research and applications; distributed interdisciplinary collaborative frameworks; advanced simulation and design capabilities; onboard science autonomy and intelligent compression; and autonomous operations and control.

Exploration Systems Mission Directorate (ESMD)

The Exploration Systems Mission Directorate (ESMD) is a new organization within NASA dedicated to creating a constellation of new capabilities, supporting technologies, and foundational research that enables sustained and affordable human and robotic exploration. It results from integrating the responsibility of the previous Office of Exploration Systems and the Office of Biological and Physical Research, including research and development efforts focused on crew health and life-support systems, countermeasures, and radiation protection. The ESMD will address strategic technical challenges and minimize the health and safety risks for the crew of any space vehicle.

Specific capabilities and supporting research and technology development will evolve over time. Presently, the Mission Directorate is tasked with developing a Crew Exploration Vehicle that will be used by astronauts to travel in space. It is developing nuclear technologies that will enable long-duration space travel and evaluating plans for a new capability that may service, repair, and eventually de-orbit the Hubble Space Telescope. It is also conducting research to ensure the health and safety of astronauts during long-duration space exploration far from Earth and is actively engaged in promoting new approaches that will substantially involve industry and universities in these efforts. The Centennial Challenges Program, which offers prizes to stimulate innovation, is one example of a novel approach.

Please visit http://www.exploration.nasa.gov/ for additional information on the Exploration Systems Mission Directorate.

Space Operations Mission Directorate (SOMD)

The Space Operations Mission Directorate (SOMD) provides many critical enabling capabilities that make possible much of the science, research, and exploration achievements of the rest of NASA. It does this through the three themes of the International Space Station, the Space Shuttle Program, and Flight Support:

- The International Space Station (ISS) establishes a permanent human presence in Earth orbit. The ISS provides a long-duration, habitable laboratory for science and research activities investigating the limits of human performance, expanding human experience in living and working in space, and enabling the commercial development of space.

- The Space Shuttle Program builds on the Shuttle's primacy as the world's most reliable and versatile launch system. The Shuttle, first launched in 1981, provides the only capability in the United States for human access to space.

- Flight Support consists of Space Communications, Launch Services, and Rocket Propulsion Testing.

The Space Operations Mission Directorate aims to expand the frontiers of space by exploring, using, and enabling the development of space for humans.

- Please visit http://www.hq.nasa.gov/osf/ to learn more about the Space Operations Mission Directorate.

GSRP RESEARCH AREAS FOR 2007

The following chart shows research disciplines that are supported by the 2007 GSRP solicitation at the NASA Centers.

	ARC	DFRC	GRC	GSFC	KSC	JPL	JSC	LaRC	MSFC	SSC
Aeronautical	✓	✓	✓	✓			✓	✓	✓	
Chemical	✓	✓	✓		✓	✓	✓	✓		✓
Electrical		✓	✓	✓	✓	✓	✓	✓		✓
Mechanical		✓	✓	✓	✓		✓	✓	✓	✓
Metallurgy/Materials	✓		✓		✓		✓	✓	✓	
Engineering	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Astronomy	✓			✓		✓			✓	
Chemistry	✓		✓		✓	✓		✓		
Physics	✓		✓	✓	✓	✓		✓	✓	✓
Physical Science	✓		✓	✓	✓	✓			✓	✓
Mathematics	✓		✓		✓			✓		
Computer Science	✓		✓		✓	✓	✓	✓		✓
Math/Comp	✓		✓	✓	✓	✓		✓	✓	
Biological Science	✓		✓		✓				✓	✓
Life Science	✓				✓	✓	✓			
Social Science	✓								✓	
Atmospheric Science	✓			✓		✓		✓	✓	
Geol Science	✓			✓		✓		✓		✓
Oceanography				✓		✓				✓
Environmental Science	✓			✓	✓				✓	✓
Psychology	✓						✓	✓		
Other Sciences	✓		✓	✓	✓	✓	✓	✓	✓	✓

ARC	**A**mes **R**esearch **C**enter	**JPL**	**J**et **P**ropulsion **L**aboratory
DFRC	**D**ryden **F**light **R**esearch **C**enter	**JSC**	**J**ohnson **S**pace **C**enter
GRC	**G**lenn **R**esearch **C**enter	**LaRC**	**L**angley **R**esearch **C**enter
GSFC	**G**oddard **S**pace **F**light **C**enter	**MSFC**	**M**arshall **S**pace **F**light **C**enter
KSC	**K**ennedy **S**pace **C**enter	**SSC**	**S**tennis **S**pace **C**enter

The following chart shows research disciplines that are supported by the 2007 GSRP solicitation through the NASA Mission Directorates.

	ARMD	ESMD	SMD-ES	SMD-SS	SOMD
Aeronautical	✓				
Chemical		✓			
Electrical					
Mechanical		✓	✓		✓
Metallurgy/Materials		✓			✓
Engineering		✓			✓
Astronomy				✓	
Chemistry		✓	✓	✓	
Physics		✓	✓	✓	
Physical Science			✓	✓	
Mathematics			✓		✓
Computer Science			✓	✓	✓
Math/Comp			✓		✓
Biological Science		✓	✓	✓	
Life Science		✓			
Social Science			✓		
Atmospheric Science			✓	✓	
Geol Science			✓		
Oceanography			✓		
Environmental Science		✓	✓		
Psychology					
Other Sciences		✓			

ARMD	**AERONAUTIC RESEARCH MISSION DIRECTORATE**
ESMD	**EXPLORATION SYSTEM MISSION DIRECTORATE**
SMD-ES	**SCIENCE MISSION DIRECTORATE-EARTH SCIENCE**
SMD-SS	**SCIENCE MISSION DIRECTORATE-SPACE SCIENCE**
SOMD	**SPACE OPERATIONS MISSION DIRECTORATE**

GSRP APPLICATION FORM AND CERTIFICATIONS

PART I. NEW APPLICANTS: A complete package for ***new applicants*** must contain the following items:

Application Materials

Application—The Applicant Data Form must be completed on-line and includes the following components:

Abstract—Proposal abstracts should concisely summarize the proposed research and its relationship to the NASA mission. The abstract should not exceed 100 words in length. The abstract is in addition to the 5-page proposal.

Budget Figures— *Amount and Duration:* Fellowships are awarded for one year as training grants in the amount of $30,000. This amount includes a $21,000 student stipend, a student travel allowance of $4,000, up to $1,000 for health insurance, and a $4,000 university allowance, which typically goes to the Research Adviser, who becomes the Principal Investigator for the Training Grant. Awards are renewable up to three years based on satisfactory academic advancement, research progress, and available funding. The NASA Program Manager and the Technical Adviser at the NASA Center or Mission Directorate must approve renewals. All applications are due annually, by the deadline posted on the GSRP Website. The deadline for the 2007 applications is 5:00 PM EST on Thursday, February 1, 2007.

Allowable Expenses: The student stipend of $21,000 may cover tuition, room and board, books, software, meal plans, school and laboratory supplies, and other related expenses. The $4,000 Student Allowance may be used for travel that is directly related to the NASA sponsored research, and other expenses agreed upon by the student and the Faculty Research Adviser. The University Allowance of $4,000 is a discretionary award made to the university via the Research Adviser, who becomes the Principal Investigator for the GSRP Training Grant. NASA recognizes the need for adequate health insurance, and has included an allowance not to exceed $1,000 to assist with this cost. In cases where students already have health insurance, the $1,000 may be added to the stipend or to student travel. The NASA Program Manager must approve alternative uses of GSRP funding. The GSRP Fellowship supports graduate education, and does not provide University overhead. GSRP grant funds may not be used for the purchase of any equipment, including computers.

Anticipated Use of Center or University Facilities and Resources—All students must indicate the NASA or University facilities and resources to be used in support of the research, including an estimate of any computer time required. Students are strongly encouraged to contact the appropriate NASA Technical Adviser listed for the proposed research area or their Faculty Adviser to coordinate these activities.

Proposal/Project Description—

- Upload. A five-page proposal that is authored by the applicant must be submitted online. The proposal should provide a clear description of the student's proposed research. A five page research proposal in response to the Research Opportunities listed on the GSRP website. Proposals must follow the sequence below, and contain the following technical elements:

  - Statement of the Problem
  - Hypothesis
  - Approach
  - Predicted Outcomes
  - Proposed Timeline
  - Conclusion
  - References
  - Adviser's Endorsement

- Transcripts. New applicants must provide transcripts showing undergraduate and graduate coursework. Renewals must provide a transcript showing all courses taken since the previous GSRP award
- The proposed utilization of Center or University research facilities; and
- The recommendation of the Faculty Adviser.

Biographical Sketches of the Faculty Adviser and Student—Upload. For new applications, background information on the Faculty Adviser and student is required. Provide short biographical sketches from each (not to exceed two pages) that list the following information: name, current position, title, department, university address, phone number, and principal publications. The sketches should include relevant career experience, research, awards, scholarships, and other relevant accomplishments. This requirement includes all applicants (new applicants, graduating seniors, and renewals).

Official Transcripts—**Mail**. New applicants are required to submit an official transcript that lists all university coursework (undergraduate and graduate).

Letter of Recommendation—**Mail**. The Faculty Adviser must provide a signed one-page letter of recommendation on behalf of the student. The letter must include a statement indicating the level of assistance provided to the student in the preparation of the GSRP proposal.

Signature Form—**Mail.** Proposals will not be accepted without these required signatures: student signature, Faculty Adviser signature, and institutional authorizing official signature. By signing, the authorizing official commits the university and confirms that the Certification Requirements have been met. Certifications of Compliance with Applicable Executive Orders and U.S. Code are listed below.

(i) Privacy Act Statement
(ii) Certification Regarding Debarment, Suspension, and Other Responsibility Matters,
(iii) Certification Regarding Drug-Free Workplace Requirements,
(iv) Certification Regarding Lobbying for Contracts, Grants, Loans, and
(v) Assurance of Compliance with NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs.

PART II: RENEWAL APPLICANTS: A complete package for *renewal applicants* must contain the following items**:**

Application Materials

Application—The Applicant Data Form must be completed online and includes the following components:

Abstract—Proposal abstracts should concisely summarize the ongoing research and its relationship to the NASA mission. The abstract should not exceed 100 words in length.

Budget Figures—*Amount and Duration:* Fellowships are awarded for one year as training grants in the amount of $30,000. This amount includes a $21,000 student stipend, a student travel allowance of $4,000, up to $1,000 for health insurance, and a $4,000 university allowance, which typically goes to the Research Adviser, who becomes the Principal Investigator for the Training Grant. Awards are renewable up to three years based on satisfactory academic advancement, research progress, and available funding. The NASA Program Manager and the Technical Adviser at the NASA Center or Mission Directorate must approve renewals. All applications are due annually, by the deadline posted on the GSRP Website. The deadline for the 2007 applications is 5:00 PM EST on Thursday, February 1, 2007.

Allowable Expenses: The student stipend of $21,000 may cover tuition, room and board, books, software, meal plans, school and laboratory supplies, and other related expenses. The $4,000 Student Allowance may be used for travel that is directly related to the NASA sponsored research, and other expenses agreed upon by the student and the Faculty Research Adviser. The University Allowance of $4,000 is a discretionary award made to the university via the Research Adviser, who becomes the Principal Investigator for the GSRP Training Grant. NASA recognizes the need for adequate health insurance, and has included an allowance not to exceed $1,000 to assist with this cost. In cases where students already have health insurance, the $1,000 may be added to the stipend or to student travel. The NASA Program Manager must approve alternative uses of GSRP funding. The GSRP Fellowship supports graduate education, and does not provide University overhead. GSRP grant funds may not be used for the purchase of any equipment, including computers.

Anticipated Use of Center or University Facilities and Resources—All students must indicate the NASA or University facilities and resources to be used in support of the research, including an estimate of any computer time required. Indicate any change in your requirements for use of facilities and resources.

Research Progress Report—Upload. A report that is authored by the applicant discussing the status of the research must be provided for renewal. This report must describe the status of the GSRP funded research during the previous year(s) of support. The report should indicate research plans to be supported with renewal funding. This statement must contain the Research Adviser's endorsement, and should not exceed five pages in length.

Official Transcript—Mail. Renewal applicants are required to submit an official transcript that lists all courses taken since the previously submitted application.

Research Adviser's Endorsement—Mail. The Faculty Adviser must provide a signed one-page letter of recommendation as a part of the renewal application. The letter must include a statement indicating the level of assistance provided to the student in the preparation of the GSRP proposal.

5. **University Signature Form**—Mail. Proposals will not be accepted without these required signatures: student signature, Faculty Adviser signature, and institutional authorizing official signature. By signing, the authorizing official commits the university and confirms that the Certification Requirements have been met. Certifications of Compliance with Applicable Executive Orders and U.S. Code are listed below. (See also pages 24-29.)

   (i) Privacy Act Statement
   (ii) Certification Regarding Debarment, Suspension, and Other
   (iii) Responsibility Matters,
   (iv) Certification Regarding Drug-Free Workplace Requirements,
   (v) Certification Regarding Lobbying for Contracts, Grants, Loans, and
   (vi) Assurance of Compliance with NASA Regulations Pursuant to
   (vii) Nondiscrimination in Federally Assisted Programs.

SAMPLE APPLICANT DATA FORM *(To apply, follow the Application Guidelines)*

Last Name _____ First Name _____ MI ____ Birth Date _____

Birth City/Town and State _____ Birth Country _____

Permanent Contact Information	Departmental Contact Information	Hours Completed		
	Institution:	Bachelors	Master's	Doctorate
Street:	**Department:**			
City:	**Street:**	**GPA (4.0 Scale)**		
State:	**City:**	Bachelors	Master's	Doctorate
Zip:	**State:** **Zip:**			
Phone:	**Phone:**	**Expected Date of Graduation:**		
Email:	**Email:**	Bachelors	Master's	Doctorate
Fax:	**Fax:**			

(Check ARMD: MS if you also want to be considered for the Aero Fell)

Degree to be supported by this award (Check one): **GSRP: MS ( )** **GSRP: PhD ( )** **ARMD: MS (X)**

Academic Major:

Colleges or Universities Attended ***(list current institution first)***

Institution	Location	Dates Attended		Degree	Major

Applicant Background

Gender ☐ Male ☐ Female | Individual with Disabilities ☐ Yes ☐ No

Are You Hispanic or Latino? ☐ Yes ☐ No

Please select the racial category or categories with which you most closely identify by: *(Check as many as apply.)*
☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American
☐ Native Hawaiian or Other Pacific Islander ☐ White

Proposal Information

Type of Proposal ☐ **New** ☐ Second Year ☐ Third Year ☐ Other

If Renewal, enter the Grant Number: NGT _____ Proposed Start/Renewal Date: _____/_____/_____

Research Title:

Submission Information (Check no more than 2 boxes)

NASA Mission Directorates:	Aeronautic Research (ARMD)		Exploration System (ESMD)		Science – Earth Science (SM-ES)		Science – Space Science (SM-SS)		Space Operations (SOMD)	
NASA Centers:	Ames (ARC)		Dryden (DFRC)		Glenn (GRC)		Goddard (GSFC)		Jet Propulsion Lab. (JPL)	
	Johnson (JSC)		Kennedy (KSC)		Langley (LaRC)		Marshall (MSFC)		Stennis (SSC)	

Enter the name of the Center Research Adviser: _____

NASA's office of Education is evaluating its complete suite of programs, and would like to know if you have ever participated in other NASA education programs, (whether K-12, informal or Higher Education). If yes, please list NASA programs in which you have participated.

_____

_____

UNIVERSITY SIGNATURE FORM

Applicant's Institution:

APPLICANT:	FACULTY ADVISER:	INSTITUTIONAL AUTHORIZING OFFICIAL:
Name:	**Name:**	**Name:**
Major:	**Department:**	**Title:**
Street:	**Street:**	**Street:**
City:	**City:**	**City:**
State:	**State:**	**State:**
ZIP:	**ZIP:**	**ZIP:**
Phone:	**Phone:**	**Phone:**
Email:	**Email:**	**Email:**

APPLICANT CERTIFICATION

I certify that I am a citizen of the United States and that I am or will be a full-time graduate student at the university during the period for which this application/proposal is made. I certify that the statements made in this application are true and complete to the best of my knowledge. I also certify that I am the principal author of the proposal submitted in response to the GSRP Announcement and that it was composed in accordance with the policies at my institution.

Signature: _____ **Date:** _____

FACULTY ADVISER CERTIFICATION

I certify that the student named above is the principal author of the proposal submitted in response to the GSRP Announcement and that it was composed in accordance with the policies at this institution.

Signature: **Date:**

UNIVERSITY AUTHORIZING OFFICIAL CERTIFICATION

Certification of Compliance with Applicable Executive Orders and U.S. Code

By signing and submitting the proposal identified in this GSRP Application/Proposal Cover Sheet in response to the request for a proposal under the Graduate Student Researchers Program, the Authorizing Official of the proposing institution, as identified below:

- Certifies that the statements made in this proposal are true and complete to the best of his/her knowledge;
- Agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal; and
- Confirms compliance with all provisions, rules, and stipulations set forth in the four Certifications contained in this solicitation [namely, (1) Certification Regarding Debarment, Suspension, and Other Responsibility Matters-Primary Covered Transactions; (2) Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals; and (3) Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements; and (4) Assurance of Compliance with the National Aeronautics and Space Administration Regulations Pursuant to Nondiscrimination in Federally Assisted Programs.

I understand that full-text versions of the above certifications are available at http://fellowships.hq.nasa.gov/gsrp/certifications

University Authorizing Official: _____ **Date:** _____

REQUIRED CERTIFICATIONS

- Privacy Act Statement
- Certification Regarding Debarment, Suspension, and Other Responsibility Matters
- Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals
- Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements
- Assurance of Compliance with the NASA Regulations Pursuant to Nondiscrimination in Federally Assisted Programs

By signing the GSRP Signature Form, the Institutional Authorizing Official confirms that he/she has read the full-text version of the certifications and further confirms compliance with all the provisions, rules, and stipulations set forth in the certifications contained in this solicitation.

Certification of Compliance with Applicable Executive Orders and U.S. Code

The following supplements are the full text of certifications related to NASA grant awards. Please read the certifications carefully. By signing and submitting the proposal identified in the GSRP Application/Proposal Cover Sheet, (see Appendix A), in response to the request for a proposal under the Graduate Student Researchers Program, the Authorizing Official of the proposing institution, as identified below:

1. Certifies that the statements made in this proposal are true and complete to the best of his/her knowledge;
2. Agrees to accept the obligations to comply with NASA award terms and conditions if an award is made as a result of this proposal.

Privacy Act Statement

General
Pursuant to Public Law 93-579, Privacy Act of 1974, as amended (5U.S.C.§552a), the following information is being provided to persons who are asked to provide information to obtain a NASA Graduate Student fellowship.

Authority
This information is collected under the authority of the National Aeronautics and Space Act. Publication 85-568, as amended, 42 U.S.C.§2451, et. seq.

Purposes and Uses
This information requested on the application form will be used to determine your eligibility for participation in the NASA Graduate Student Researchers Program. The information requested regarding your ethnic/racial/disability status will be used to determine the degree to which members of each ethnic/racial/disability group are being reached by NASA's announcement of this program, and will not affect your application. Additionally, NASA may disclose this information to other organizations, and other governmental agencies, as well as Congressional offices in response to an inquiry made on your behalf. Disclosure may also be made to concerned parties in the course of litigation, to law enforcement agencies, and to other Federal agencies in exchanging information pertinent to an agency decision.

Effects of Nondisclosure
Furnishing the information on the application form is voluntary, but failure to do so may result in NASA's inability to determine eligibility for participation and selection for award in the Graduate Student Researchers Program. However, your application will not be affected if you choose not to provide information on your ethnic, racial, or disability status.

Definitions for Applicant Background
- American Native or Alaskan American: A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
- Hispanic: A person of Mexican, Puerto Rican, Cuban, or South American or other Spanish culture or origin, regardless of race.
- Asian: A person having origins in any of the original peoples of East Asia, Southeast Asia or the Indian subcontinent. This area includes, for example, China, India, Indonesia, Japan, Korea, and Vietnam.
- Pacific Islander: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific territories of Guam, American Samoa, and the Northern Marinas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; or the Philippines.
- African American, not of Hispanic origin: A person having origins in any of the black racial groups of Africa.
- White, not of Hispanic Origin: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- Individual with Disabilities: An individual having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters Primary Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participant's responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160 - 19211). Copies of the regulation may be obtained by contacting the U.S. Department of Education, Grants and Contracts Service, 400 Maryland Avenue, SW (Room 3633 GSA Regional Office Building No. 3), Washington, DC 20202-4725, telephone (202) 732-2505.

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or government wide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620). This grantee certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about
(1) the dangers of drug abuse in the workplace;
(2) the grantee's policy of maintaining a drug-free workplace;
(3) any available drug counseling, rehabilitation, and employee assistance programs, and
(4) the penalties that may be imposed upon employees for drug abuse violations in the work place;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will (1) Abide by the terms of the statement; and (2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

(e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted -

(f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted;

(1) Taking appropriate personnel action against such an employee, up to and including termination; or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraph (a), (b), (c), (e), and (f).

Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certificate shall be subject to a civil penalty of not less than $10,000, and not more than $100,000 for each such failure.

Assurance of Compliance with the National Aeronautics and Space Administration Regulations Pursuant to Nondiscrimination in Federally Assisted Programs

The Institution, corporation, firm, or other organization on whose behalf this assurance is signed, hereinafter called "Applicant" HEREBY AGREES THAT it will comply with Title VI of the Civil Rights Act of 1964 (PL 88-352), Title IX of the Education Amendments of 1962 (20 U.S.C. 1680 et seq.), Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and the Age Discrimination Act of 1975 (42 U.S.C. 16101 et seq), and all requirements imposed by or pursuant to the Regulation of the National Aeronautics and Space Administration (14 CFR Part 1250) (hereinafter call "NASA") issued pursuant to these laws, to the end that in accordance with these laws and regulations, no person in the United States shall, on the basis of race, color, national origin, sex, handicapped condition, or age be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Applicant receives federal financial assistance from NASA; and HEREBY GIVE ASSURANCE THAT it will immediately take any measure necessary to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of federal financial assistance extended to the Applicant by NASA, this assurance shall obligate the Applicant, or in the case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance shall obligate the Applicant for the period during which the federal financial assistance is extended to it by NASA.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all federal grants, loans, contracts, property, discounts, or other federal financial assistance extended after the date hereof to the Applicant by NASA, including installment payments after such date on account of applications for federal financial assistance which were approved before such date. The Applicant recognized and agrees that such federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign on behalf of the Applicant.

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